

WHAT IS CLAIMED IS:

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1. An undercabinet lighting assembly comprising:
a housing;
a first plurality of Light Emitting Diodes (LEDs) mounted within the
housing forming at least one array of LEDs, the LEDs generating an LED beam and
serving as a light source;
an optical assembly operatively associated with the housing for focusing
and dispersing the LED beam to a desired light contour; and
a fixing apparatus disposed on a surface of the housing for attaching the
undercabinet lighting assembly to an associated structure.

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2. The undercabinet lighting assembly according to claim 1, further
comprising a switch-coupled to a variable resistor for controlling the level of optical
output.

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3. The undercabinet lighting assembly according to claim 2, wherein the
switch is adapted to selectively turn on and off any select number of LEDs within the
array of LEDs.


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4. The undercabinet lighting assembly according to claim 2, wherein the
switch provides a step level variable control having at least two distinct levels of
illumination.

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5. The undercabinet lighting assembly according to claim 4, wherein the
switch has a first level adapted to provide partial illumination equivalent to night-light
functionality and a second level adapted to provide full illumination.

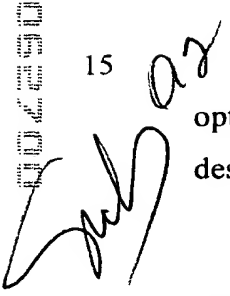
6. The undercabinet lighting assembly according to claim 2, wherein the
switch operates as a rheostat having continuous variable control.

7. The undercabinet lighting assembly according to claim 6, wherein the switch further includes a step level variable control thereby allowing a user to choose between a step level mode of operation and a rheostat mode of operation.


5 8. The undercabinet lighting assembly according to claim 1, wherein the first plurality of LEDs have multiple colors of spectral output for achieving desired light output, light level, and beam characteristics.

10  9. ~~The undercabinet lighting assembly according to claim 1, further comprising a battery pack having a battery source enclosed by the fixture housing for providing back-up power and emergency lighting.~~

10. The undercabinet lighting assembly according to claim 9, wherein the battery source automatically provides power to the undercabinet lighting assembly upon primary power failure.

15  11. The undercabinet lighting assembly according to claim 1, wherein the optical assembly is selectively adjustable for focusing and dispersing the LED beam as desired.

20 12. The undercabinet lighting assembly according to claim 1, wherein the optical assembly is fixed and the array of LEDs serving as the light source is selectively moveable for focusing and dispersing the LED beam as desired.

25  13. ~~The undercabinet lighting assembly according to claim 1, further comprising a second plurality of LEDs for providing lower levels of illumination, the second plurality of LEDs being separate and distinct from the first plurality of LEDs, the second plurality of LEDs adapted to automatically turn on upon primary power failure.~~

14. The undercabinet lighting assembly according to claim 1, wherein the housing is formed from a flexible material allowing the undercabinet lighting assembly to adopt a desired shape.

15. An undercabinet lighting assembly comprising:
a housing; and
a first plurality of Light Emitting Diodes (LEDs) mounted within the fixture housing forming at least one array of LEDs, the array of LEDs generating an LED beam and serving as a light source.

16. The undercabinet lighting assembly according to claim 15, further comprising a switch formed from a variable resistor for controlling the level of optical output.

17. The undercabinet lighting assembly according to claim 16, wherein the switch is adapted to selectively turn on and off any select number of LED's within the at least one array of LED's, thereby allowing a user to choose from several different levels of illumination.

18. The undercabinet lighting assembly according to claim 16, wherein the switch operates as a step level variable control having at least two distinct levels of illumination.

19. The undercabinet lighting assembly according to claim 18, wherein the switch has a first level of illumination adapted to provide partial illumination equivalent to night-light functionality and a second level of illumination adapted to provide full illumination.

20. The undercabinet lighting assembly according to claim 16, wherein the switch operates as a rheostat having continuous variable control.

21. The undercabinet lighting assembly according to claim 20, wherein the switch further includes a step level variable control thereby allowing a user to choose between a step level mode of operation and a rheostat mode of operation.

5 22. The undercabinet lighting assembly according to claim 15, wherein the first plurality of LEDs have multiple colors of spectral output for achieving desired light output, light level, and beam characteristics.

10 23. The undercabinet lighting assembly according to claim 15, further comprising a battery pack having a battery source enclosed by the housing for providing back up power and emergency lighting.

15 24. The undercabinet lighting assembly according to claim 23, wherein the battery source automatically provides power to the undercabinet lighting assembly upon primary power failure.

20 25. The undercabinet lighting assembly according to claim 15, further comprising an optical assembly operatively associated with the fixture housing which is selectively adjustable for focusing and dispersing the LED beam.

26. The undercabinet lighting assembly according to claim 25, wherein the optical lens is fixed and the array of LEDs serving as the light source is selectively moveable for focusing and dispersing the LED beam.

25 27. The undercabinet lighting assembly according to claim 15, further comprising a second plurality of LEDs for providing lower levels of illumination, the second plurality of LEDs being separate and distinct from the first plurality of LEDs, the second plurality of LEDs being operative in response to primary power failure.

28. The undercabinet lighting assembly according to claim 15, wherein the housing is formed from a flexible material.